



September 16, 2019

Arcelor Mittal USA, Inc.  
250 W US Highway 12  
Burns Harbor, IN 46304-9745

Work Order No.: 19I0851

Re: NPDES Parameters

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 6 sample(s) on 9/15/2019 9:20:00AM for the analyses presented in the following report as Work Order 19I0851.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at [ron.misiunas@microbac.com](mailto:ron.misiunas@microbac.com).

Sincerely,  
Microbac Laboratories, Inc.

A handwritten signature in black ink that reads "Carey Gadzala". The signature is written in a cursive, flowing style.

Carey Gadzala  
Project Manager

[Microbac Laboratories, Inc.](http://www.microbac.com)

250 West 84<sup>th</sup> Drive | Merrillville, IN 46410 | 800.536.8379 p | 219.769.8378 p | 219.769.1664 f | [www.microbac.com](http://www.microbac.com)



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**WORK ORDER SAMPLE SUMMARY****Date:** *Monday, September 16, 2019*

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**Client:** Arcelor Mittal USA, Inc.  
**Project:** NPDES Parameters  
**Lab Order:** 19I0851

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<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Tag Number</b>	<b>Collection Date</b>	<b>Date Received</b>
19I0851-01	001-Composite	001	09/14/2019 00:00	9/15/2019 9:20:00AM
19I0851-02	001-Grab	001	09/14/2019 00:00	9/15/2019 9:20:00AM
19I0851-03	011-Composite	011	09/14/2019 00:00	9/15/2019 9:20:00AM
19I0851-04	011-Grab	011	09/14/2019 00:00	9/15/2019 9:20:00AM
19I0851-05	002-Composite	002	09/14/2019 00:00	9/15/2019 9:20:00AM
19I0851-06	002-Grab	002	09/14/2019 00:00	9/15/2019 9:20:00AM

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## Field Results

Date: *Monday, September 16, 2019*

<b>Client:</b>	Arcelor Mittal USA, Inc.	<b>Work Order:</b>	19I0851
<b>Client Project:</b>	NPDES Parameters		
<b>Client Sample ID:</b>	001-Grab	<b>Work Order/ID:</b>	19I0851-02
<b>Sample Description:</b>	001	<b>Sampled:</b>	09/14/2019 00:00
<b>Matrix:</b>	Aqueous	<b>Received:</b>	09/15/2019 09:20

Analyses	Result	Units
FLD_CL_TITR	0.00	mg/L
pH	7.8	pH Units

<b>Client Sample ID:</b>	011-Grab	<b>Work Order/ID:</b>	19I0851-04
<b>Sample Description:</b>	011	<b>Sampled:</b>	09/14/2019 00:00
<b>Matrix:</b>	Aqueous	<b>Received:</b>	09/15/2019 09:20

Analyses	Result	Units
FLD_CL_TITR	0.00	mg/L
pH	7.8	pH Units

**CASE NARRATIVE****Date:** *Monday, September 16, 2019*

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**Client:** Arcelor Mittal USA, Inc.  
**Project:** NPDES Parameters  
**Lab Order:** 19I0851

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The Total Suspended Solids method residue requirement of 2.5 mg were not met for the following sample(s).  
Due to insufficient sample volume remaining, re-analysis was not performed on the sample(s).

<u>Laboratory ID</u>	<u>Sample Name</u>
19I0851-03	011-Composite

B - the Method Blank contained zinc at a level above the reporting limit. The zinc results could be biased high.  
This nonconformance is associated with the following sample:

<u>Laboratory ID</u>	<u>Sample Name</u>
19I0851-01	001-Composite
19I0851-03	011-Composite

## Analytical Results

Date: Monday, September 16, 2019

**Client:** Arcelor Mittal USA, Inc.  
**Client Project:** NPDES Parameters  
**Client Sample ID:** 001-Composite  
**Sample Description:** 001  
**Matrix:** Aqueous

**Work Order/ID:** 19I0851-01  
**Sampled:** 09/14/2019 0:00  
**Received:** 09/15/2019 9:20

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed	
			Method: EPA 200.7 Rev 4.4				Analyst: RPL			
<b>Total Recoverable Metals by ICP</b>										Prep Date/Time: 09/16/2019 08:23
Copper	ejj	A	ND	0.0013	0.010		mg/L	1	09/16/2019 13:13	
Lead	ejj	A	ND	0.0033	0.0075		mg/L	1	09/16/2019 13:13	
Zinc	ejj	A	0.023	0.0073	0.020	B	mg/L	1	09/16/2019 13:13	
			Method: EPA 200.8 Rev 5.4				Analyst: BTM			
<b>Total Recoverable Metals by ICP/MS</b>										Prep Date/Time: 09/16/2019 08:23
Silver	ejj	A	0.000071	0.000053	0.00060		mg/L	1	09/16/2019 12:25	
			Method: SM 4500-CN C/E-1999				Analyst: ABG			
<b>Total Cyanide</b>										Prep Date/Time: 09/15/2019 11:55
Cyanide, Total	ejj	A	0.0078	0.0020	0.0050		mg/L	1	09/15/2019 13:47	
			Method: SW-846 9014				Analyst: ABG			
<b>Free Cyanide</b>										Prep Date/Time: 09/15/2019 12:30
Free Cyanide		A	ND		0.0062		mg/L	1	09/15/2019 13:14	
			Method: EPA 350.1 Rev 2.0				Analyst: ABG			
<b>Nitrogen, Ammonia as N</b>										Prep Date/Time: 09/15/2019 12:05
Nitrogen, Ammonia (As N)	ei	A	0.35	0.054	0.10		mg/L	1	09/15/2019 13:14	
			Method: EPA 420.4 Rev 1.0				Analyst: ABG			
<b>Total Phenolics</b>										Prep Date/Time: 09/16/2019 07:17
Phenolics, Total Recoverable	ejj	A	ND	0.0060	0.010	U	mg/L	1	09/16/2019 15:26	
			Method: SM 2540 D-1997				Analyst: KMT			
<b>Total Suspended Solids</b>										Prep Date/Time: 09/15/2019 10:08
Total Suspended Solids	ejj	A	4.5	1.0	1.0		mg/L	1	09/15/2019 12:20	

## Analytical Results

Date: Monday, September 16, 2019

<b>Client:</b>	Arcelor Mittal USA, Inc.	<b>Work Order/ID:</b>	19I0851-02
<b>Client Project:</b>	NPDES Parameters	<b>Sampled:</b>	09/14/2019 0:00
<b>Client Sample ID:</b>	001-Grab	<b>Received:</b>	09/15/2019 9:20
<b>Sample Description:</b>	001		
<b>Matrix:</b>	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
Method: EPA 1664B					Analyst: KMT				
<b>Oil &amp; Grease (HEM) by SPE</b>									
Oil & Grease (HEM)	ejj	A	ND	1.4	5.0	U	mg/L	1	09/15/2019 13:30

## Analytical Results

Date: Monday, September 16, 2019

**Client:** Arcelor Mittal USA, Inc.  
**Client Project:** NPDES Parameters  
**Client Sample ID:** 011-Composite **Work Order/ID:** 19I0851-03  
**Sample Description:** 011 **Sampled:** 09/14/2019 0:00  
**Matrix:** Aqueous **Received:** 09/15/2019 9:20

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed	
			Method: EPA 200.7 Rev 4.4				Analyst: RPL			
<b>Total Recoverable Metals by ICP</b>										Prep Date/Time: 09/16/2019 08:23
Lead	ejj	A	0.0048	0.0033	0.0075		mg/L	1	09/16/2019 13:18	
Zinc	ejj	A	0.022	0.0073	0.020	B	mg/L	1	09/16/2019 13:18	
			Method: SM 4500-CN C/E-1999				Analyst: ABG			
<b>Total Cyanide</b>										Prep Date/Time: 09/15/2019 11:55
Cyanide, Total	ejj	A	0.0040	0.0020	0.0050		mg/L	1	09/15/2019 13:52	
			Method: SW-846 9014				Analyst: ABG			
<b>Free Cyanide</b>										Prep Date/Time: 09/15/2019 12:30
Free Cyanide		A	ND		0.0062		mg/L	1	09/15/2019 13:16	
			Method: EPA 350.1 Rev 2.0				Analyst: ABG			
<b>Nitrogen, Ammonia as N</b>										Prep Date/Time: 09/15/2019 12:05
Nitrogen, Ammonia (As N)	ei	A	0.27	0.054	0.10		mg/L	1	09/15/2019 13:22	
			Method: EPA 420.4 Rev 1.0				Analyst: ABG			
<b>Total Phenolics</b>										Prep Date/Time: 09/16/2019 07:17
Phenolics, Total Recoverable	ejj	A	ND	0.0060	0.010	U	mg/L	1	09/16/2019 15:34	
			Method: SM 2540 D-1997				Analyst: KMT			
<b>Total Suspended Solids</b>										Prep Date/Time: 09/15/2019 10:08
Total Suspended Solids	ejj	A	2.1	1.0	1.0		mg/L	1	09/15/2019 12:20	

## Analytical Results

Date: Monday, September 16, 2019

<b>Client:</b>	Arcelor Mittal USA, Inc.	<b>Work Order/ID:</b>	19I0851-04
<b>Client Project:</b>	NPDES Parameters	<b>Sampled:</b>	09/14/2019 0:00
<b>Client Sample ID:</b>	011-Grab	<b>Received:</b>	09/15/2019 9:20
<b>Sample Description:</b>	011		
<b>Matrix:</b>	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
Method: EPA 1664B					Analyst: KMT				
<b>Oil &amp; Grease (HEM) by SPE</b>									
Oil & Grease (HEM)	ejj	A	ND	1.4	5.0	U	mg/L	1	09/15/2019 13:30

## Analytical Results

Date: Monday, September 16, 2019

<b>Client:</b>	Arcelor Mittal USA, Inc.	<b>Work Order/ID:</b>	19I0851-05
<b>Client Project:</b>	NPDES Parameters	<b>Sampled:</b>	09/14/2019 0:00
<b>Client Sample ID:</b>	002-Composite	<b>Received:</b>	09/15/2019 9:20
<b>Sample Description:</b>	002		
<b>Matrix:</b>	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed
			Method: SM 4500-CN C/E-1999			Analyst: ABG			
Prep Date/Time: 09/15/2019 11:55									
<b>Total Cyanide</b>									
Cyanide, Total	ejj	A	0.0024	0.0020	0.0050		mg/L	1	09/15/2019 13:54

## Analytical Results

Date: Monday, September 16, 2019

<b>Client:</b>	Arcelor Mittal USA, Inc.	<b>Work Order/ID:</b>	19I0851-06
<b>Client Project:</b>	NPDES Parameters	<b>Sampled:</b>	09/14/2019 0:00
<b>Client Sample ID:</b>	002-Grab	<b>Received:</b>	09/15/2019 9:20
<b>Sample Description:</b>	002		
<b>Matrix:</b>	Aqueous		

Analyses	Certs	AT	Result	MDL	RL	Qual	Units	DF	Analyzed	
			Method: EPA 1664B				Analyst: KMT			
<b>Oil &amp; Grease (HEM) by SPE</b>										
Prep Date/Time: 09/15/2019 10:03										
Oil & Grease (HEM)	ejj	A	ND	1.4	5.0	U	mg/L	1	09/15/2019 13:30	

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**ANALYTE TYPES: (AT)**

A, B = Target Analyte

I = Internal Standard

M = Summation Analyte

S = Surrogate

T = Tentatively Identified Compound (TIC, concentration estimated)



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**QC SAMPLE IDENTIFICATIONS**

BLK = Method Blank

DUP = Method Duplicate

BS = Method Blank Spike

MS = Matrix Spike

ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank

CRL = Client Required Reporting Limit

PDS = Post Digestion Spike

QCS = Quality Control Standard

ICSA = Interference Check Standard "A"

ICSAB = Interference Check Standard "AB"

BSD = Method Blank Spike Duplicate

MSD = Matrix Spike Duplicate

ICV = Initial Calibration Verification

CCV = Continuing Calibration Verification

OPR = Ongoing Precision and Recovery Standard

SD = Serial Dilution

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**CERTIFICATIONS (Certs)**

*Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.*

d Illinois EPA drinking water, wastewater and solid waste analysis (#200064)

i Kansas Dept Health &amp; Env. NELAP (#E-10397)

j Kentucky Wastewater Laboratory Certification Program (#108202)

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**FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)****B:** The target analyte was detected in the method blank at or above the reported quantitation limit.**MDL:** Minimum Detection Limit**RL:** Reporting Limit**RPD:** Relative Percent Difference**U:** The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.

## Cooler Receipt Log

Cooler ID: Default Cooler

Temp: 4.7°C  
 MICROBAC®

### Comments

No time

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### Cooler Inspection Checklist

Ice Present or not required?	Yes
Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes
Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes
Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes
Sample type identified on COC?	Yes
Correct type of Containers Received	Yes
Correct number of containers listed on COC?	No
Containers Intact?	Yes
COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes
Sample labels match COC (Name, Date & Time?)	No
Samples arrived within hold time?	Yes
Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes
Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes

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Microbac Laboratories, Inc.

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CHAIN OF CUSTODY RECORD

ROBAC\*

Number 152543

Instructions on back

Turnaround Time

TO BE COMPLETED BY MICROBAC  
 Temperature Upon Receipt (°C) 5.1 - 4 = 4.7  
 Therm ID

Invoice Address

Client Name:

Address:

City, State, Zip:

Contact:

Telephone No.:

Turnaround Time

Routine (5 to 7 business days)  
 RUSH\* (notify lab)

Holding Time

Samples Received on Ice?  Yes  No  N/A  
 Custody Seals Intact?  Yes  No  N/A

Report Type  
 Results Only  Level 1  Level 2  Level 3  Level 4  EDD

Send Invoice via:  Mail  Fax  e-mail (address)

Compliance Monitoring?  Yes  No  
 Agency/Program

PO No.:

Sampler Phone No.:

Sampler Signature: *Warren Howard*

\* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

\*\* Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Thiosulfate, (8) Sodium Bisulfate, (9) Hexane, (U) Unpreserved

REQUESTED ANALYSIS

Lab ID	Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types **	Analysis	Analysis	Analysis	Analysis	Analysis	Analysis	Additional Notes
	001	9/14/19		1				TS5	Phenol	TSN	TSN	TSN	TSN	
	001	9/14/19		2										
	011	9/14/19		1										
	011	9/14/19		3										
	002	9/14/19		1										
	002	9/14/19		2										
	011	9/15/19		1										
	Legion Channel Inlet	9/15/19		1										
	South Legon Inlet	9/15/19		1										

Possible Hazard Identification  Hazardous  Non-Hazardous  Radioactive

Sample Disposition  Dispose as appropriate  Return  Archive

Relinquished By (signature)	Date/Time	Received By (signature)	Date/Time
<i>Warren Howard</i>	9/15/19 0830	<i>[Signature]</i>	9-15-19 0830
<i>[Signature]</i>	9-15-19 0920	<i>[Signature]</i>	9-15-19 0830
<i>[Signature]</i>	9-15-19 0920	<i>[Signature]</i>	9-15-19 0830